DOCUMENT
JUL 3 1955
SAN FRAN
PUBLIC L

REPORT

TO

PARKING AUTHORITY OF SAN FRANCISCO

ON

A DOWNTOWN PARKING PROGRAM

FEBRUARY, 1954

BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF SAN FRANCISCO

5/S

CLOSED
STACKS

SAN FRANCISCO
PUBLIC LIBRARY

[illegible] CENTER
SAN FRANCISCO PUBLIC LIBRARY

REFERENCE BOOK

Not to be taken from the Library

SAN FRANCISCO PUBLIC LIBRARY
3 1223 90185 9984

Digitized by the Internet Archive
in 2016 with funding from
San Francisco Public Library

https://archive.org/details/reporttoparkinga1954bure

DOCUMENTS
JUL 3 1965
SAN FRANCISCO
PUBLIC LIBRARY

REPORT
TO
PARKING AUTHORITY OF SAN FRANCISCO
ON
A DOWNTOWN PARKING PROGRAM

FEBRUARY, 1954

BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF SAN FRANCISCO

DOCUMENTS DEPT.

*352.7
Sa52/r

San Francisco Public Library

66 52

TABLE OF CONTENTS

PAGE

Letter of Transmittal 2

Introduction 5

Available Data 13

Analysis of Demand and Supply 15

Types of Garage Operation 20

Desired Garage Capacity 23

Use of Street Frontages for Store Purposes 24

Garages Under Construction and Heretofore Proposed 27

Lurie Plan Garages (Summary only) 31
(Text Omitted) 32-44

Recommended Garage Locations and Sizes 45

Cost of Construction and Land Acquisition 54

Recommended Parking Fee Schedules 56

Gross Annual Income 58

Operation and Maintenance Expense 60

Net Revenue and Return on Investment 62

List of Tables

Table 1 Recommended Parking Projects 47
Table 2 Estimated Cost of Initial Program 55
Table 3 Proposed Schedules of Parking Fees 57
Table 4 Gross Annual Income 59
Table 5 Annual Operation and Maintenance Expense 61

Plates

Number Following page
I Present Short-time Parking Demand and Supply.... 16
II Present Net Short-time Parking Demand and Supply 17
III 1965 Net Short-time Parking Demand and Supply .. 18
IV Proposed Parking Facilities and Location of Major Existing Garages 46

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC WORKS

BUREAU OF
ENGINEERING

351 CITY HALL
SAN FRANCISCO 2,
CALIFORNIA

February 10, 1954

A Downtown Parking Program

THROUGH:
Mr. Sherman P. Duckel
Director of Public Works

Parking Authority of San Francisco
500 Golden Gate Avenue
San Francisco 2, California

Gentlemen:

I take pleasure in presenting a report on a downtown parking program for San Francisco. The report has been prepared pursuant to your Work Order of October 9, 1953, and in accordance with your instructions as to desired content.

The introduction contains a general analysis of the parking problem in relation to traffic congestion on our city streets and suggests that the Parking Authority's program should be directed toward certain measures which will relieve congestion. It is pointed out that the same measures can also render a distinct service to customers of downtown business establishments, and, incidentally, to such establishments themselves.

The report estimates that there are about 12,600 motorists in the downtown district each day who are in need of short-time parking space and would make use of conveniently located off-street facilities if the parking fees were sufficiently attractive. Predictions for the future indicate that this number will increase to about 18,000 by 1965.

It is recommended that the Parking Authority adopt a general program the initial unit of which would include the construction of two parking lots and five garages with a combined capacity of 5,690 stalls, sufficient to accommodate 11,000 parkers. Locations are suggested for an additional large parking lot and an additional garage, to be undertaken as a later unit of the program. The parking lots, to be located beyond the limits of the congested area, are intended to attract some of the all-day parkers away from existing garages within the congested district thereby making space available for short-time parkers and also to intercept other all-day parkers before they enter the congested district. It is recommended that private enterprise be encouraged to construct similar all-day parking facilities provided they are to be located outside the congested area. The purpose is to avoid further traffic congestion during the morning and evening peak-hour periods.

The proposed garages within the congested area will render a public benefit by taking automobiles off the streets promptly, thereby avoiding cruising in search of space, and also by making it practical to impose further prohibitions on curb parking so as to clear the street areas for the free movement of traffic during periods of present mid-day congestion.

The desired purposes can be achieved only if parking fees are fixed at a level low enough to attract full patronage of the proposed facilities. It is recommended that the Parking Authority establish a rate schedule for each project to be undertaken and retain the power to modify the rates from time to time as conditions change. The report suggests three different schedules:

(1) for short-time parking in the congested area where all-day parking should be excluded - starting at 10¢ for a half hour and going to $2.00 for over 5 hours; (2) for short-time parking outside the congested area - 10¢ for one hour and going to $2.00 for over 5 hours; and (3) for all-day parking outside the congested area - 15¢ for one hour and going to 75¢ for over 5 hours. Estimates of parking fee income were based on these schedules.

The total estimated cost of land acquisition and construction work is shown to be $17,754,000. The gross annual revenue is estimated at $2,070,000. The cost of operation, based on the self-parking method, is shown to be $688,700. Deducting this from the gross revenue, the resulting net income is $1,381,300. This amount is 7.78% of the total proposed investment. It would be available for property taxes, debt service, income taxes and profits. With City financing of land acquisition, which is nearly half of the total cost, a private operator with funds available at 5½% over a 30-year period should make a small profit. If the whole project were financed with City general obligation bonds, the debt could be paid off in about 17½ years.

It is recommended that the Parking Authority adopt the proposed program and that it give consideration to ways and means of financing all of the proposed immediate projects either as one undertaking or in successive stages.

Very truly yours,

Ralph G. Wadsworth

Ralph G. Wadsworth
City Engineer

[illegible]

[illegible]

[illegible]

[illegible]

A DOWNTOWN PARKING PROGRAM

INTRODUCTION

This report presents a general analysis of the present downtown parking problem in San Francisco and offers recommendations as to the types and locations of desirable new garages and the procedures and policies applying to them which might form a basis for action by the Parking Authority of San Francisco.

DOWNTOWN BUSINESS DISTRICT

The downtown business district is taken to be the area occupied by the principal department and specialty stores, service shops, professional offices, financial institutions, insurance and business offices, corporation headquarters, and many hotels, restaurants and theatres. For the purpose of this study, the boundaries have been fixed to include the compact area where the heaviest traffic congestion and the most serious parking problem occur. South of Market Street, the area includes Mission Street from First Street to Seventh Street. North of Market Street, the boundary includes the following streets: Bush, Market to Kearny, Kearny to Sutter, Sutter to Mason, Mason to Geary, Geary to Powell, Powell to Eddy, Eddy to Mason, Mason to Turk, Turk to Taylor, Taylor to Golden Gate, Golden Gate to Jones, and Jones to Market. The area is shown on Plates which follow.

CLASSIFICATION OF PARKERS

Three fairly well defined classes of parkers must be given consideration.

The Errand Parker is one who wants to make a single quick purchase such as cigarettes, postage stamps, or a loaf of bread or to perform a special mission such as making a bank deposit or delivering a document. He wants to stop only a few minutes at a place not over half a block from his destination and will pay but a few cents for a parking space. He represents an important group of people who should be accommodated if possible and his patronage is of value to stores and businesses.

The Customer Parker is the important one from the standpoint of preserving the downtown business district. He or she is the shopper at the department and specialty stores and is also taken herein to include the client of doctors, lawyers and financial advisors, the salesman or executive making business calls, and the patron of service shops, restaurants and theaters. He wants a parking space for 1 to 3 hours within about 800 or 1000 feet of his destination and will pay a moderate fee for its use. If such facility is not available, he is likely to go to other parts of the City where his needs can be met and parking facilities are available.

The All-Day Parker works downtown and wants to drive his automobile to and from his job rather than use a street car or bus. He needs a parking space for 8 to 10 hours and will pay a fee within his means, the amount depending in part on the distance from his destination. He enters and leaves the downtown district with large numbers of his fellow workers and is almost wholly responsible for the morning and evening traffic congestion periods.

USE OF STREETS FOR PARKING

Streets are built originally for two purposes: (1) to give access to each parcel of adjoining property, and (2) to permit vehicles to pass through a given area. They have long been subjected to another use: (3) the curb-side storage of motor vehicles when not in use.

In single-family residential areas, all three uses can usually be permitted. In business districts it becomes necessary to place relative priorities on the respective uses by the exercise of police power for the common good. Reasonable freedom for moving traffic is necessarily given first priority as being necessary to avoid stagnation. Access to adjoining property comes second and the rights of the property owner and his customer must be duly considered. For this reason short-time parking at the curb should be permitted whenever consistent with requirements for moving traffic but must be regulated by means of time limits in order to spread the benefits and avoid abuse of the privilege. Long-time or all-day use of curb space in a business district is given the lowest priority and must usually be prohibited. Such use can only be looked on as a private monopoly of a publicly owned place.

Restrictions on the use of street space for short-time and all-day parking immediately create a demand for off-street parking facilities. A large part of the concern about space for customers would seem to rest with the business men and property owners because they have the most to gain or lose. The obtaining of all-day parking space is primarily the private

problem of the workers who use them or perhaps their employers. On the other hand, the City has an interest in both short-time and all-day parking, partly as a matter of public convenience and partly because of the inter-relation of parking and traffic, as evidenced by existing State legislation on the subject which permits the use of public funds to provide off-street facilities as a means of relieving traffic congestion.

RECENT TRENDS IN THE DOWNTOWN BUSINESS DISTRICT

San Francisco, like other cities, has experienced a rapid growth in the use of private automobiles and the resulting effect on the downtown business district has been noticeable in many ways. More restrictions have been placed on curb parking and much better enforcement has been achieved through the liberal installation of parking meters. This has forced many all-day parkers who formerly used the City streets to seek off-street space. There is also a definite trend on the part of downtown workers to abandon mass transit and to use their private automobiles in going to and from work because of greater convenience and reduced traveling time.

The result has been a continually increasing demand for all-day parking space and the conversion of more and more of the limited available space in existing facilities from short-time use to all-day use. This conversion has been encouraged by the present rate schedules in existing garages and lots which generally do not penalize the long-time parker.

A second result of the increased use of private automobiles by persons going to work in the downtown district has been

the growing traffic congestion during the morning and evening peak-flow periods. Every additional person who drives a car into the downtown district between 7 a.m. and 9 a.m. and drives out again between 4 p.m. and 6 p.m. contributes to the congestion and impedes the movement of streetcars, buses and other motorists.

There is also much complaint about traffic congestion in the middle of the day. Because of the limited space available for short-time parking at moderate rates, customers have difficulty in finding satisfactory places to park. They consequently search for curb space, double park while waiting for an anticipated vacancy, or circulate through the district until an opening appears. The result is continuing congestion which discourages patronage of downtown stores and places of business. Many potential customers are forsaking the downtown district in favor of new outlying shopping centers which provide large amounts of free parking space.

PRESENT PARKING AUTHORITY PROGRAM

The Parking Authority's announced objective has been to supply "additional off-street parking facilities to reduce serious conditions of congestion of street traffic." This statement of the objective assumes that new parking facilities will relieve downtown congestion by taking inbound automobiles off the streets promptly and thereby avoid the extra distance frequently traversed by motorists while looking for a place to park. The objective conforms with the wording of the preamble to the Parking Law of 1949 under which the Parking Authority is organized.

The adopted procedure of the Parking Authority in working toward its objective has been to supplement the efforts of private industry to provide parking facilities. The intention has been to proceed in successive steps as follows: 1st - stimulation of private financing and construction; or, 2nd- purchase of garage sites to be turned over to private parties for construction and operation of garages thereon; or, 3rd if necessary - complete financing and construction of garages with operation placed in the hands of private parties; and 4th, as a last resort - financing, building and operating completed facilities.

The St. Mary's Square project and the proposed Ellis-O'Farrell project fall within the 2nd step, that is, the Parking Authority acquires the necessary land and then turns it over, on a competitive basis, to the private party which offers to construct and operate a garage and pay the highest rental to the City. It has been assumed that the parking fees charged by the private operator would be similar to those already being charged in the same vicinity but he has been free to charge whatever fees would produce the greatest net income. It can be said for this type of arrangement that there will be no heavy financial burden on the general taxpayers, and no unfair competition with the private parking industry.

PROGRAM FOR DOWNTOWN BUSINESS DISTRICT

In view of the previous discussion of conditions and trends, it appears that the Parking Authority's program for the downtown business district should be more clearly directed toward

the special problems there encountered. It should recognize that morning and evening traffic congestion is largely caused by all-day parkers and that the supplying of more space for such parkers within the business district will merely induce more parkers to come and thereby aggravate rather than relieve congestion. The program should also recognize the existing mid-day congestion which is caused by the shortage of cheap and convenient facilities for customer parking.

The following general program is recommended for the downtown business district:

1. Provide new facilities for long-time parking at locations outside of the downtown business district as herein defined. They should be near important arteries leading into the business district so as to intercept workers before they reach the traffic congested areas. Numerous medium size garages would be preferable to fewer large ones so as to avoid new congestion on the incoming arteries. Such garages built on moderately priced land should prove profitable for private enterprise. If not, financing and operation could follow the general procedure heretofore followed by the Parking Authority but with some form of guarantee that parking rates would be kept at a level low enough to attract a substantial number of all-day parkers now using facilities located within the downtown area. This diversion from inside locations to periphery locations is the principal public benefit to be derived from this phase of the program.

2. Promote the development of agreements between downtown

merchants and business and professional men on the one hand and present parking lot and garage operators on the other hand, whereby more of the existing parking capacity within the business district would be made available to short-time parkers at low rates. This might involve a reduction in revenue or an increase in operating cost or both which the merchants and business men, as the principal beneficiaries, would be called upon to meet. The Parking Authority would be justified in devoting its efforts toward the consummation of the suggested agreements because of the resulting reduction of traffic congestion in a two-fold way. First, more acceptable space for customer parking would permit further prohibition of curb parking with resulting relief of mid-day congestion. Second, the diversion of existing all-day parking to facilities outside the downtown district would relieve morning and evening congestion on the streets.

3. Provide new facilities for short-time parkers within the downtown business district. They should be within easy walking distance of the stores, shops and business offices. Rates must be fixed under some type of control at a level low enough to attract customers desiring parking for 1 to 3 hours and must be so arranged as to exclude all-day parkers. Provision should be made for adjusting rates to meet changing conditions. Design of facilities and method of operation should ensure minimum delay to parkers at both arrival and departure.

Because of probable high land cost and low parking revenue, this type of facility is not likely to be entirely self-supporting. The City will have a large interest in the results through relief of mid-day traffic congestion and would therefore

be justified in lending its credit so as to secure low interest rates and perhaps in foregoing the taxes on the property taken. The downtown merchants and business men would also receive direct benefit in keeping customers and obtaining new customers and should therefore be expected to assist by validation of parking tickets or other arrangements to the extent necessary to make the undertaking a success.

PLANNING OF NEW FACILITIES

In preparing the remainder of this report, it has been assumed that the above program will be adopted. Proposals are made for the construction of lots and garages within the downtown business district and at various locations beyond the margin. Parking fee schedules, designed to accomplish the desired purposes, are suggested and estimates of revenue are based on them.

AVAILABLE DATA

TRAFFIC SURVEY 1946-47

Basic information for the studies made for the present report was derived from the Bay Area Metropolitan Traffic Survey conducted during 1946 and 1947 by the California Division of Highways in cooperation with the City of San Francisco and the Public Roads Administration. Data on ultimate destination of parkers as shown by the survey were used as the basis for the chapter on "The Parking Program" which was included in the 1948

report on "A Transportation Plan for San Francisco" prepared for the City Planning Commission by De Leuw Cather and Company, Consulting Engineers, and Ladislas Segoe and Associates, Consulting City Planners. Much of the material presented in the report is still valid but modifications are necessary to take care of changes and trends which have occurred since 1947. The usefulness of the conclusions was somewhat limited by the fact that downtown desintations were segregated by segments consisting of several city blocks and no distinction was made between short-time parking and all-day parking.

CITY ENGINEER'S REPORT OF 1951

In the City Engineer's report of November 1951 on "Proposed Public Garage in the Central Market Street Area" the destination figures were further segregated so as to apply to each of the small areas surrounding the separate street intersections in the district under consideration. This report covered the area in the vicinity of Market Street running from Second Street to Sixth Street. Diagrams were included in the report showing passenger destinations, parking demand and supply, and net excess demand and excess supply by intersections. The figures included both short-time and long-time parking. The report recommended the construction of a 1200-stall garage in the middle of the block bounded by Market, Third, Mission, and Fourth Streets with pedestrian access to Market Street at a point opposite Grant Avenue. A policy of fixing rates so as to attract short-time parking was advocated.

INVENTORIES OF PARKING SUPPLY

Surveys of off-street and curb parking space were made in 1948 and were brought up to date for the Central Market Street area in 1951, including information as to rates and turnover. This material has again been reviewed and corrected to reflect present conditions. A questionnaire survey made by the Parking Authority has yielded valuable information although the response from garage and lot owners was rather meager.

ANALYSIS OF DEMAND AND SUPPLY

The program recommended herein for providing additional parking facilities for short-time and all-day parkers separately makes it necessary to segregate the demand as between the two types. Fortunately the 1946-47 origin-destination survey made a distinction between persons going downtown to work and those going for other purposes. The latter group is assumed to comprise the errand parkers and the customer parkers as previously defined who create the short-time demand.

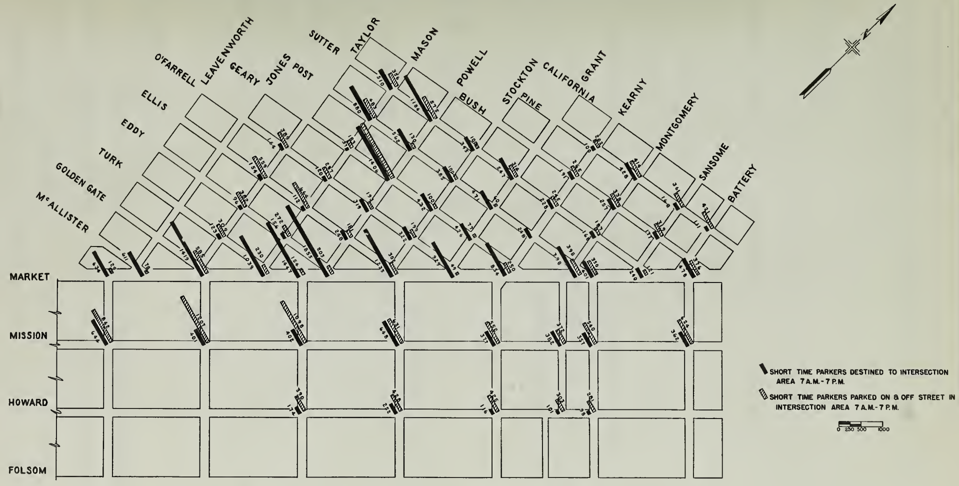
SHORT-TIME DEMAND

The breakdown of parking destinations shown in the De Leuw report of 1948 has been further refined by breaking down the segments into the smaller areas surrounding each of the street intersections in the downtown district. At each intersection, the separate figure for the short-time demand has been determined.

In order to adjust the 1947 automobile destination figures to 1953 conditions, use was made of an automobile cordon count made in 1953 and information on transit patronage supplied by the Municipal Railway. The cordon count showed that 23% more automobiles were entering the Metropolitan Traffic District. The Municipal Railway information indicated a 28% drop in transit patronage. If these trends are translated into terms of people actually entering the Metropolitan Traffic District it is found that there has been a very slight increase since 1947 - 0.55%.

Since there has been no radical change in land use characteristics in the Metropolitan Traffic District, it is fair to assume that the increases in automobile destinations into the Metropolitan Traffic District, which so closely balance the transit loss, can be attributed almost entirely to the diversion of persons to automobiles.

Using this assumption, the increase in automobile destinations for various intersections was determined as follows: A boundary for the Central Market Street Parking Area was determined which coincided roughly with the Central Parking District of the De Leuw Report. The total day-time transit destinations within this area were multiplied by 28% (the transit patronage drop) to determine the number of people diverted to automobiles. This number was then divided by 1.5, the average automobile occupancy, to determine the number of new automobile destinations due to diversion. This increase in destinations was then distributed to the intersections within the area in proportion to their daytime transit destinations. The slight increase due



DOWNTOWN PARKING PROGRAM

PRESENT SHORT TIME PARKING
DEMAND AND SUPPLY
BY INTERSECTION AREA

PLATE I

to growth was distributed in proportion to the total number of persons destined to the area.

SHORT-TIME SUPPLY

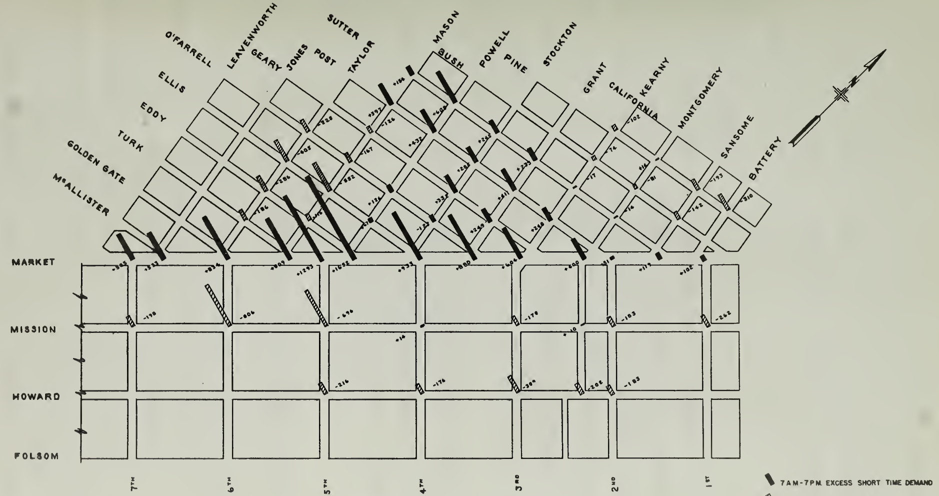
The present supply of space for short-time parkers has been estimated by counting existing curb parking stalls and applying turnover factors and also by counting a portion of the space provided in existing lots and garages. It has been assumed that the present legal curb spaces will still be used by persons making short calls or deliveries but that the use of illegal curb spaces will be effectively prohibited. The resulting short-time parking supply for the area surrounding each street intersection is shown by the shaded bars on Plate I.

EXCESS OF DEMAND OR SUPPLY

Plate II, which combines the figures represented on Plate I, shows the excess of demand over supply, or supply over demand, for short-time parking in the vicinity of each street intersection. The summation of the figures for excess demand represents 12,665 parkers who may be considered as potential patrons of new parking facilities affording short time space at low rates.

FUTURE DEMAND AND SUPPLY

Any extensive program of providing new garages will take 2 to 4 years for construction and 15 or 20 years thereafter to amortize the cost. Designs and estimates of revenue should therefore be based on probable demand as of about 10 years from now,



DOWNTOWN PARKING PROGRAM

PRESENT NET SHORT TIME PARKING
DEMAND AND SUPPLY
BY INTERSECTION AREA

PLATE II

or say about 1965. It is believed that natural growth and the generation of new business in the vicinity of the new garages will increase the present demand for short-time parking by about 25%. Plate III shows the resulting figures for excess parking demand computed on that basis.

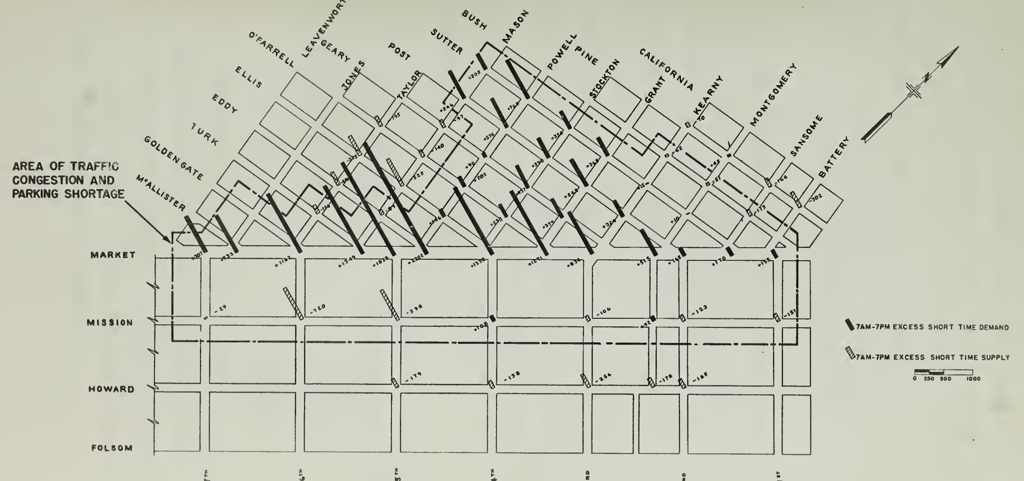
ALL-DAY PARKING DEMAND

Future demand for all-day parking is extremely difficult to estimate because of the many and conflicting factors. With moderate parking fees, the demand in the downtown district will probably always equal the supply. Improved or cheaper mass transit service would decrease the demand. Attractive parking rates at locations just outside the business district would decrease the demand inside.

In a following section of this report somewhat arbitrary figures for all-day parking demand have been assigned to the limited number of parking lots included in the recommended program.

DESIRABLE GARAGE LOCATIONS AND CAPACITIES

From Plate III it will be noted that the heavy concentrations of short-time parking demand will be along Market Street between Second and Seventh Streets and in the heart of the shopping district north of Market Street extending roughly to Mason Street on the west and Sutter Street on the north. New facilities should be in or close to the high-demand areas and should be so distributed that walking distance to any point



DOWNTOWN PARKING PROGRAM

1965 NET SHORT TIME PARKING DEMAND AND SUPPLY BY INTERSECTION AREA

PLATE III

of high demand will not exceed about 1000 feet.

To serve the Market Street intersections, practical consideration of land cost will probably cause the selection of sites along Mission Street, but they should be on the north side of the street where possible. Accommodations are needed for about 12,400 parkers who will require the use of about 4900 stalls.

In the shopping district, locations must be within the area of high demand or immediately on the edge. Exact locations will be dictated largely by relative land values. New facilities will be needed in this area for about 5700 parkers who will need about 2300 stalls.

In the financial district east of Montgomery Street, there appears to be no excess demand for short-time parking.

The above estimates may be compared roughly with the 1970 requirements for parking as described on page 6-13 of the De Leuw report as follows:

	Number of Stalls Required	
Area Served	De Leuw Report	This Report
Along Market Street......	7,300	4,900
Shopping District	4,300	2,300
Financial District	2,400	0
Total	14,000	7,200

The difference between the two sets of estimates is primarily that the De Leuw estimates provide for all types of parking while this report provides only for short-time parkers within the business district. There is some difference also in the allowance made for future growth.

TYPES OF GARAGE OPERATION

The operation of any garage involves checking automobiles in and out for the purpose of computing and collecting fees; moving the car to the proper level and then parking it in a stall; and the subsequent removal of the car from the stall and its delivery through the checking station to the customer.

In some of the older existing garages, movement of cars from level to level has been accomplished by means of elevators, but the manufacture of freight elevators for this purpose has been discontinued and the more recent garages have been provided with ramps leading from floor to floor. A recent development, and an exception from the above statement, is the mechanical parking garage which provides machinery for lifting and parking the cars by remote control. These devices which are now in operation in a few places appear to be practical for multi-story garages on high-priced land. There is a limit on the rate at which cars can be parked. Some of them are noisy in operation.

The usual method of handling cars within a parking garage is by means of attendants, employed by the operator, who pick up an entering car near the garage entrance, drive it to a vacant space, and then report the designation of the parking stall to the checking station for reference when the customer returns. Experience indicates that about three or four minutes is required to park or remove a car in a moderate size garage by this method. This means that the rate of entry and particularly the rate of exit depend entirely on the number of attendants who are on duty.

Open parking lots have usually been operated on a self-parking basis, that is, the motorist drives his car into the lot and then under advice from an attendant proceeds to a certain location and parks his car in a vacant stall. When he later wishes to retrieve his car he proceeds to the point where he left it and drives it out, paying the accrued fee when he passes the checking station.

During the last few years a number of garages have been built in various parts of the country using the self-parking idea, some times with variations. In a multi-story garage there is usually an employe who directs the motorist to the proper level or to a designated parking area. In some instances the motorist proceeds only to the proper level and from that point the car is taken by an attendant and placed in the parking stall.

The advantages of attendant parking are as follows:

1) More cars can be placed in a given area because of the experience of the drivers.

2) The motorist wastes a minimum amount of time when checking in.

3) There is less damage to automobiles and consequently fewer claims for repairs.

4) Motorists are likely to be reluctant to drive up several floors, particularly if circular ramps are provided, and may have difficulty in parking their cars within a reasonable time in a satisfactory manner.

The advantages of self-parking are as follows:

1) Motorists can move almost continuously into the garage thereby avoiding congestion in the approaching street and also avoiding the use of large waiting or reservoir areas inside the building.

2) Motorists can lock their cars and remove the keys thereby being assured that their cars will not be moved or entered in their absence.

3) Motorists can retrieve their cars and move out of the garage without being required to wait for attendants to serve them. During peak hours this may mean a saving of from 10 to 30 minutes in time of getting away.

Most of the downtown garages in San Francisco furnish attendant parking at the present time. The large number of attendants needed during the morning and evening rush hours must be employed at work other than parking during several hours in the middle of the day. Partly to keep these men busy and partly because of the added income, most of the larger garages offer automobile service to their patrons, including washing, greasing and fueling. The combination of attendant parking and car servicing is apparently quite successful at least where a large part of the patrons are long-time or all-day parkers.

For taking care of customer parkers for periods normally not exceeding 3 hours, it is believed that self-parking will be

the most suitable method of operation and that sales and service would not be necessary and probably not profitable. Reluctance on the part of some drivers to park their own cars can be overcome by appropriate signs, courteous directions, and adequate assistance in finding parking spaces. The number of attendants required will be not over one-third of the number required for attendant parking and the efficiency of the working force will be higher because there will be a less rapid fluctuation in the rate at which cars are parked and removed.

Since the new garages proposed in this report are intended for short-time parking, operation by the self-parking method is strongly recommended and estimates of income and expense have been made on that basis.

DESIRABLE GARAGE CAPACITY

The suitable size for a garage at any particular location will depend, primarily, on the amount of parking business that can be generated by the particular facility. Other factors are the capacity of the adjoining streets to handle the inflow and outflow; the rate at which cars can be received and parked, which may be physically limited, particularly if attendant parking is employed; and the desirable number of parking levels to be provided at any site.

It has generally been considered that five parking levels above the ground level should be the maximum number,

although this limitation appears to be based principally on the time required to handle cars in and out on an attendant-ant-parking basis. The same situation would apply, to some extent, in the case of self-parking since the motorist may be reluctant to drive beyond a certain height and may object to traveling long distances either horizontally or vertically when going to or from his car. In spite of such possible limitations, self-parking garages have been built recently with eight or nine levels although it is believed they are used primarily for long-time parkers. In order to be conservative, it is proposed herein that no garage should contain more than seven levels of parking, including the roof.

Generally speaking, a large garage will cost less per parking stall than a small one because of lower square-foot construction cost and a relatively less amount of unproductive space devoted to entrances, reservoir, ramps, and exits.

USE OF STREET FRONTAGES FOR STORE PURPOSES

In locations where garages are constructed in or close to high-class built-up districts it is sometimes desirable to utilize the ground floor street frontages for store purposes rather than for parking areas. This is particularly true in retail shopping districts where it is important to avoid an interruption in the continuity of store frontages. The depth of the space normally needed for small store purposes would not exceed about 90 feet.

Under the present State law (Section 32804 - Parking Law of 1949) the Parking Authority appears to have the power to devote to store purposes a portion of any property which may be acquired for garage purposes provided the area so used shall not exceed 25% of the surface area of the property. It will be desirable to provide for retail stores in this manner at some of the locations proposed herein.

The Ellis-O'Farrell garage proposed by the Parking Authority is an example. This garage, to be located in the block between Stockton and Powell Streets, will run through from Ellis Street to O'Farrell Street with a frontage of 137.5 feet on each street. Of these frontages not more than 40 feet will probably be needed for entrance and exit purposes and consequently nearly 100 feet of frontage could be made available for small retail stores. This would be particularly desirable in this location because of the prosperous and growing business in the vicinity. Stores in the garage frontage will tend to avoid possible lowering of property values in the neighborhood and will also have some effect in providing additional parking business for the garage.

Floor space devoted to retail stores will earn somewhat more than the same space devoted to parking. Comparative earnings will, of course, depend on several factors, such as relative construction costs, probable store rentals, and proposed parking fees. Taking the proposed Ellis-O'Farrell Garage as an example, the relative earnings have been estimated approximately based on the following assumptions:

Garage construction cost, $6 per sq. ft.; store construction cost, $15 per sq. ft.; store rental $15 per front ft. per month; parking fees 25¢ per hour, with average parking time 2 hours and turn-over 2.5 daytime and 1.0 on Monday night. Depth of stores 90 feet. Gross area of parking stalls 300 sq. ft. Operating cost 40% of gross income.

Computation will show, based on these assumptions, that a parking stall will earn $19 per month. The same amount of space in a store will gross $50 per month from which must be deducted the carrying charges on the additional construction cost of $2,700, which is equivalent to a charge of about $7 per month; thus the income is $43 as compared with $19 per month for a parking stall.

This computation indicates that the additional income for the area of a parking stall devoted to store purposes will be $24 per month or $288 per year. The corresponding figure for a single store with a 25-foot frontage would be $2,160 of additional net income per year. On a square-foot basis, the additional income is approximately $1 per square foot per year.

In preparing estimates of cost and earnings for garages recommended in this report, the use of certain frontages for store purposes is proposed in those cases where there would be a general benefit to the neighborhood.

GARAGES UNDER CONSTRUCTION AND HERETOFORE PROPOSED

Two large garages are now under construction in the downtown business district and a number of others are under consideration. In the following paragraphs the various projects are described briefly with comments as to their desirability.

St. Mary's Square Garage (Parking Authority P oject)

Located west of Kearny Street between Pine and California Streets. Normal capacity, 800 cars. Will be used probably 65% for all-day storage and 35% for customer parking. Rates expected to be at current levels in the area.

The garage is a little too far north to give effective service to department store customers but will be of value to persons transacting business and making deliveries in the financial district.

Downtown Parking Center (A private enterprise)

Construction just started at O'Farrell and Mason Streets. Nine-story building containing 417,000 square feet to be operated on a self-parking basis. Capacity is stated to be 1,025 cars, and the estimated cost of the building, $3,750,000. Proposed rates, although not yet announced, are said to be somewhat lower than current rates in the vicinity.

This garage will be slightly beyond the fringe of the downtown business district and will serve a valuable purpose in providing long-time parking, thereby taking vehicles off the streets before they reach the most congested areas. The garage will also provide valuable customer parking for stores and theaters from Powell Street west.

Ellis-O'Farrell Garage (Parking Authority Project)

Running from O'Farrell to Ellis Street in the block between Stockton and Powell Streets. The garage will have a capacity of 900 cars located adjacent to the main department-store area where there is a most pressing need for additional parking. The ground area contains 37,800 square feet; the proposed 7 levels of parking will have a total area of about 264,600 square feet. It is proposed to lease the property for construction and operation of a garage; no restriction on parking fees has been contemplated.

This project is well located and can be of great value to shoppers and to department stores. It is likely to be used by all-day parkers to a substantial degree unless rates are so fixed as to preclude that type of parking.

Minna-Natoma Parking Lot (Parking Authority Project

Narrow block between Minna and Natoma Streets running from Third to Fourth Street to be used as a parking lot temporarily and eventually as a garage site. Available land area is 123,750 square feet.

This location is too far south of the high-parking-demand area to attract many shoppers and will have rather unattractive surroundings.With low rates it should be of some value for customer parking but is probably better suited to all-day parking.

Fifth and Howard Parking Lot (Parking Authority Project)

Project contains 75,625 square feet at the northeast

corner of Fifth and Howard Streets to be operated as a parking lot initially, and subsequently to be the site of a parking garage.

Location is beyond the limits of the high parking-demand area but should prove valuable for customer parking if rates are low enough. It would be a good location for all-day parking.

Minna-Natoma Garage (MacPhee proposal)

A nine-floor garage located between Minna and Natoma Streets and running from Third Street to Eighth Street, a total distance of 4,455 feet, and a total land area of 645,975 square feet. Parking area would be 5,167,700 square feet, and capacity 15,000 cars. The structure is tied to a system of elevated highways which would form a connection to the Bayshore Freeway and the Panhandle Freeway, together with a new cross-town freeway on Eighth Street and Hyde Street. Estimated cost is stated to be $33,425,000.

The project would appear to offer a fine terminal building for the all-day parking of cars approacning the business district. The cost appears to be far beyond the amount that parking fees could support, and it is believed the proposal can only be considered as a part of a future plan to build elevated freeways into the business district.

Kearny St. Garages (MacPhee Proposal)

The project includes five garage structures, four of them being on Kearny Street between Pine and Sacramento Streets, and the fifth being on Grant Avenue between Bush and Pine Streets. The proposed eight levels of parking would have a total area of

1,384,000 square feet and would accommodate 5,500 automobiles. Elevated freeways would provide connections to Broadway on the north and to the proposed Minna-Natoma Garage and Freeway south of Market Street. Total estimated cost is stated to be $11,723,000. One of the proposed structures would encroach on the area occupied by the St. Mary's Square Garage.

It is believed that the proposal contemplates too large a garage capacity at location where the demand will not justify it.

Howard Street - Third to Fourth (Proposed by a member of the Board of Supervisors)

This location would embrace about a half block on the north side of Howard Street. It was suggested as a project which would tend to improve the character of the neighborhood by eliminating substandard buildings.

The location is too far from the shopping district to be of value as a facility for customer parking but would be suitable for all-day parking.

Third-Fourth-Market-Mission (City Engineer's proposal)

This location in the interior of the block was suggested as a site for a 1200-stall garage in a report submitted in September 1951. No action has been taken on this proposal because of the expensive electric power and transformer equipment which occupies a portion of this site. The location still warrants consideration.

Produce Market Area (City Planning Proposal)

The area occupied by the present Produce Market would be suitable for a parking lot or garage to accommodate all-day parkers. It would be of little value for customer parking.

LURIE PLAN GARAGES

This proposal was submitted to the Parking Authority in a report entitled "Downtown Parking" on May 13, 1953. It recommends the construction of two large garages, one of 3,750 stall capacity south of Market Street and one of 1,179 stall capacity on Stockton Street between Sutter and Bush Streets. The report stated that the two garages could be built for $13,191,980 including the purchase of necessary land.

At the request of the Parking Authority, the City Engineer reviewed this proposal in considerable detail and submitted a report on January 19, 1954, indicating that the garage north of Market Street was well located to serve an important parking demand, but that the proposed garage south of Market Street was 40% larger than needed to meet the future short-time parking demand. It was also shown that the annual revenue would be about 35% less than stated in the proposal, and that, after taking out City property taxes, there would be very little income over and above the amount necessary to meet interest and amortization charges on proposed revenue bonds at 3-3/4%.

Copies of the City Engineer's complete review of the Lurie Proposal are available for distribution to those interested. It has been omitted here in order to conserve space.

(Pages 32 to 44 inclusive are omitted)

RECOMMENDED GARAGE LOCATIONS AND SIZES

As indicated in the introduction to this report, the program recommended for action by the Parking Authority consists of three phases as follows:

> Phase 1 - Construct all-day parking facilities outside the congested downtown business district.
>
> Phase 2 - Convert some of the downtown all-day parking space in existing garages to short-time space for use by errand or customer parkers.
>
> Phase 3 - Provide additional parking facilities within the downtown business district for short-time parking.

Phase 2 involves cooperation between businessmen and garage operators, requiring merely promotional efforts on the part of the Parking Authority. Since no investment of funds or construction of facilities is required, this part of the program is given no further attention in this report.

ALL-DAY PARKING FACILITIES

Phase 1 of the program contemplates the providing of new facilities for all-day parking located somewhat beyond the limits of the downtown business district for the purpose of drawing some of the all-day parkers out of the district and providing space for others before they enter the district.

This phase of the program may well be feasible for private financing and such financing should be encouraged. The Downtown Parking Center now under construction at O'Farrell and Mason Streets with private financing is a good example of what can be done, although this facility will, undoubtedly, serve a

[illegible]

[illegible]

> [illegible]

> [illegible]

> [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

good many short-time parkers. The St. Mary's Square Garage, which is now nearing completion, under sponsorship of the Parking Authority and with public financing of the land cost, also meets the requirements of Phase 1 of the program.

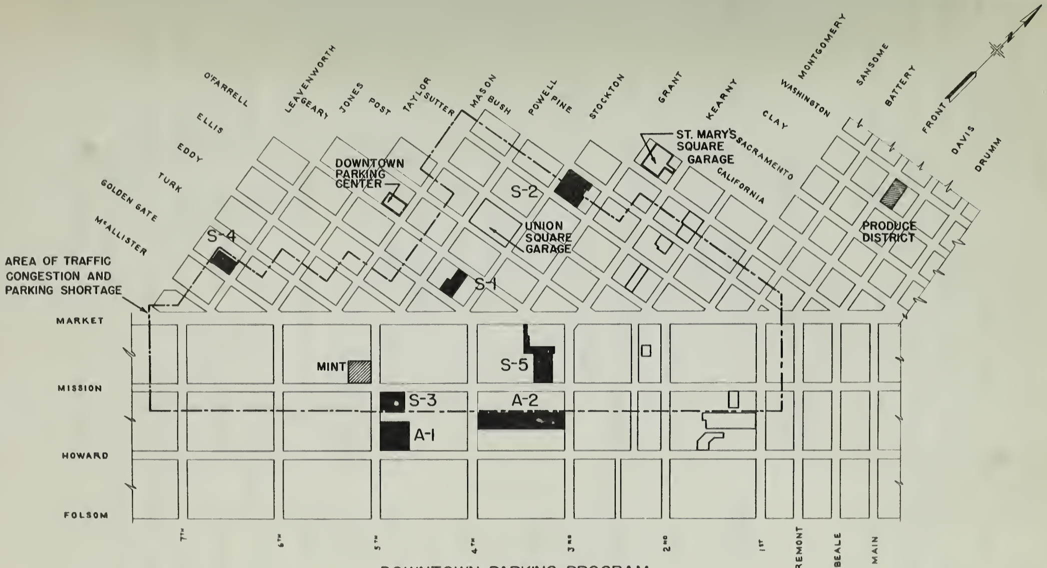
Only a limited amount of additional all-day parking space is recommended for the Parking Authority program at this time. It is thought that a program concentrating primarily on serving the short-time parker will tend to clear the way for private financing of new all-day parking. Promoters of such private enterprises should be persuaded, if possible, to locate all-day parking facilities somewhat outside the limits of the congested business district.

SHORT-TIME PARKING FACILITIES

In order to provide short-time parking facilities for persons performing errands and for customers of the stores and business houses, it is recommended that six garages be constructed within the downtown district. Sites have been chosen which will give good distribution and provide acceptable service to nearly all of the parkers represented by the demand figures previously given. Most of these sites have been under consideration before.

The location of the various proposed garages for short-time parking, as well as the three sites recommended for all-day parking lots are shown on Plate IV. This map also shows the location of the principal downtown garages now in operation as well as those presently under construction. Reference to this map will indicate that the whole area is well covered.

The proposed program consists of nine projects, three of them contemplating all-day parking primarily, and the other



DOWNTOWN PARKING PROGRAM

PROPOSED PARKING FACILITIES
AND
LOCATION OF MAJOR EXISTING GARAGES

PLATE IV

six intended for short-time parking almost exclusively. The projects are listed in the tabulation below. The all-day facilities are designated by a figure preceded by the letter "A". The short-time projects are designated by a figure preceded by the letter "S". These designations are also shown on Plate IV.

TABLE 1

RECOMMENDED PARKING PROJECTS

TYPE	NO.	LOCATION	Parkers	Stalls
All-Day	A-1	5th and Howard	300	300
	A-2	3rd to 4th - Minna to Natoma	500	500
	A-3	Produce Market Area (Future Project)	1,000	1,000
	Total	All-Day Parking Projects	1,800	1,800
Short-Time	S-1	Ellis-O'Farrell	2,050	820
	S-2	Sutter-Stockton	3,500	1,400
	S-3	5th and Mission	2,075	830
	S-4	Jones-Golden Gate	1,425	570
	S-5	Market to Mission opposite Grant	3,150	1,270
	S-6	Mint Site - 5th and Mission (Future Project)	2,400	950
	Total	Short-Time Parking Projects	14,600	5,840

Referring to the list of short-time parking projects, it will be noted that a total of 5840 parking stalls are included. This may be compared with the total 1965 requirement, as described in a previous section of this report, which was therein found to be 7200 stalls. The indicated difference of 1360 stalls will be made up by additional construction in the future and by diversion

of existing parking stalls from all-day use to short-time use.

Each of the recommended projects is described in further detail in the following pages.

PROJECT A-1 5TH AND HOWARD

This project is to be undertaken as a parking lot and operated for short-time parkers until the proposed garage at 5th and Mission (Project S-3) has been constructed. The site, 275 feet square, at the northeast corner of 5th and Howard is now occupied largely by the wholesale flower markets. The cost of the land is relatively low and the improvements required for parking lot operation will be very simple and low priced.

The lot has an area of 75,625 square feet, which will be sufficient to accommodate 300 parking stalls. It is proposed that a schedule of rates be employed which will encourage short-time parking during the initial stages of the program. A very low rate will be needed because of the distance from the principal points of short-time parking demand. After construction of the proposed garage at 5th and Mission Streets (Project S-3), a rate schedule permitting all-day parking in the lot is recommended, unless the capacity is still needed for short-time parking. For the purpose of estimating income a schedule permitting all-day parking has been used.

PROJECT A-2 3RD TO 4TH - MINNA TO NATOMA

This project will occupy the area 150 feet wide between Minna and Natoma Streets extending 825 feet from 3rd to 4th Street. It is proposed to develop this area as an all-day parking lot initially and the various estimates are based on this

initial use. The parking lot can be used for construction of a garage at a future date when the need arises for either more all-day parking space or additional space for short-time parkers. The area of the proposed site is 123,750 square feet which will make about 500 stalls.

PROJECT A-3 PRODUCE MARKET AREA

The present wholesale produce markets occupy an area between Drumm and Battery Streets and extending approximately from Clay Street to Jackson Street. Because of the extreme congestion caused by operations in this area it has been proposed for some years to provide a new site in some other part of the City. When this removal takes place a portion of the area is likely to be occupied by on and off ramps from a proposed lateral connecting with The Embarcadero Freeway. Another portion of the site could very well be devoted to an extensive terminal for private automobiles, and it is recommended that a suitable portion of the area be secured for such purpose at the proper time. A tentative capacity of 1000 cars is suggested for this project, but the matter of size will need special consideration when the site becomes available.

PROJECT S-1 ELLIS-O'FARRELL GARAGE

This is a project which has already been adopted by the Parking Authority as a unit of its immediate program under financing now available. As mentioned in a previous section of this report the proposed garage will have seven levels of parking, with a total floor space of 264,000 square feet. It is proposed to construct stores on both street frontages using 18,000 square feet which will leave space for 820 parking stalls.

The location is within the area of high parking demand and close to many retail stores. It should be operated for the accommodation of short-time parkers exclusively. This will require the establishment of parking fees in such manner as to attract short-time parking and to repel all-day parking.

PROJECT S-2 SUTTER-STOCKTON GARAGE

This garage will be located in the westerly two-thirds of the block bounded by Sutter, Stockton, and Bush Streets, and Grant Avenue. This is one of the two projects which were proposed in the plan submitted by Mr. Louis Lurie in the report entitled "Downtown Parking", which is discussed in detail in a previous section of this report entitled "The Lurie Plan". The present Sutter-Stockton project was designated "Site No. 2" in the Lurie Plan. The ground area is 74,290 square feet and the capacity of the proposed six-level structure was stated to be 1179 parking stalls.

This Lurie Plan garage is recommended for inclusion in the Parking Authority program without major change, except that the capacity has been increased to 1400 stalls by using an area of 300 square feet per stall instead of the 357 square feet used by Mr. Lurie. The construction costs are given in the previous section of this report just mentioned. Stores are provided on 275 feet of street frontages.

The garage should be operated exclusively for short-time parking during the day time on a self-parking basis. A schedule of parking fees is proposed herein for the purpose and this schedule has been used in estimating probable income. The amount is somewhat different from that estimated in the discussion of the Lurie

proposal because of changes in the capacity and in the fee schedule and the consequent modification of estimated parking duration.

PROJECT S-3 5TH AND MISSION

This project proposes the construction of a garage at the southeast corner of 5th and Mission Streets running southerly to Minna Street. The project constitutes a small part of the large garage proposed in the Lurie plan as "Site No. 1". That site included all of the frontage on the south side of Mission Street between 4th and 5th Streets and the frontage on 5th Street between Mission and Howard Streets. The total ground area was 302,500 square feet. The project herein recommended will have an area of 35,840 square feet, or approximately 12% of the area proposed in the Lurie report.

The proposed garage will have seven levels for parking and will provide 830 stalls without any provision for stores. It is proposed that it be operated on a self-parking basis primarily for short-time parkers. The proposed schedule of parking fees for this project has been designed to encourage short-time parking.

PROJECT S-4 JONES-GOLDEN GATE

This project contemplates the construction of a garage at the northwest corner of Jones Street and Golden Gate Avenue with frontages on the two streets of 206 feet and 137.5 feet, respectively. This site has been chosen because of the proximity to an area of high parking demand and also because of relatively low land values. There are other locations in the neighborhood which might serve nearly as well, but any relocation of the site should be generally in the direction of Market Street rather than

away from Market Street. The area of the site proposed is 28,360 square feet. The garage will have six levels for parking designed to provide about 570 stalls. No provision is made for stores. It should be operated on a self-parking basis with a rate schedule designed to encourage short-time parking.

PROJECT S-5 MARKET TO MISSION OPPOSITE GRANT

This project is a modification of a proposal which was made in the City Engineer's report of November 1951 entitled "Proposed Public Garage In The Central Market Street Area". It is now proposed to avoid all but minimum interference with the electric sub-station of the Pacific Gas and Electric Company. The land required would have a frontage of about 280 feet on Stevenson Street and 165 feet on Mission Street. The total area would be 65,000 square feet. This includes about 55 feet of the east end of the existing substation building. This portion of the building is now used for lighting control switches and general storage. It is proposed to make available to the power company an equivalent area in the new garage structure with a height equal to three stories of the garage. The company would retain the use of the easterly end of Jessie Street for access to its facilities in the new building.

Six parking levels would be provided for the portion of the building facing on Mission Street, running back to a depth of 160 feet and seven parking levels would be provided on the remainder of the site. The total area available for parking would be 411,400 squaro feet, which would be sufficient for the required 1270 stalls at an allowance of 325 square feet per stall.

Entrances for vehicles would be provided on Mission Street

and Stevenson Street. Exits would be into Mission Street, Stevenson Street, and Jessie Street. Patrons after parking their cars would have access to Market Street by means of a bridge crossing Stevenson Street and an arcade through one of the store areas having frontage on Market Street opposite Grant Avenue. The cost of the land required for the pedestrian arcade to Market Street has been included in the cost estimates but the construction cost has been omitted on the assumption that the arcade could be developed so as to accommodate small shops on one side which would provide rentals sufficient to cover all costs of construction as well as maintenance charges. No other stores are included in this project.

The garage should be operated on a self-parking basis and the parking fee schedule suggested hereinafter has been designed to repel all-day parking.

PROJECT S-6 MINT SITE - FIFTH AND MISSION

This project is included in the over-all program, but is intended as a unit to be undertaken at some later date when it is determined whether the site can be secured and on what terms. The site is nearly square with a frontage of 221 feet on Fifth Street and 215 feet on Mission Street. A six-story garage will accommodate 950 parking spaces. Jessie Street and Mint Street border the site on the northerly and westerly sides and would offer good access to the garage for motor vehicles.

When this project is constructed it will supplement the 5th and Mission garage (Project S-3) and take care of the full short-time demand allocated to this location.

COST OF CONSTRUCTION AND LAND ACQUISITION

The cost of acquiring necessary land has been based on recent appraisals where available and elsewhere by applying a factor of 3.0 to present assessed valuations.

Construction costs have been estimated at current prices for similar work. Proposed improvement of the parking lots includes grading, paving, drainage, fencing, lighting, and curb and sidewalk changes. Buildings are assumed to be of first-class construction meeting the requirements of the San Francisco Building Code. Walls are to be open on street frontages but screened by grillwork. Garage floors have been estimated at unit prices varying from $5.00 to $6.00 per square foot of floor area depending on size and layout. No floors are below street level except where necessary. Roof areas, which are intended to carry the top level of parking, are estimated separately at $1.50 per square foot. Allowance is made for the net cost of wrecking existing buildings.

To the total of all items, including land purchases based on assessed values, is added a 10% allowance for engineering, legal, and incidental expense. The resulting figures, which are summarized in the following tabulation, are believed to be conservative. They will, of course, be subject to some modification one way or the other when foundations are explored and detailed designs of the various structures are prepared.

TABLE 2

ESTIMATED COST OF INITIAL PROGRAM

No.	Location	Type	Land	Construction	Total	No. of Stalls	Cost per Stall Land	Cost per Stall Const.	Cost per Stall Total
A-1	5th and Howard	Lot	$ 460,000	$ 35,000	$ 495,000	300	$1530	$120	$1650
A-2	Minna-Natoma	Lot	1,200,000	62,000	1,262,000	500	2400	130	2530
Sub-Totals		Lots	$1,660,000	$ 97,000	$ 1,757,000	800	$2080	$120	$2200
S-1	Ellis-O'Farrell	Garage	$1,750,000	$1,513,000	$ 3,263,000	820	$2140	$1840	$3980
S-2	Sutter-Stockton	Garage	2,466,000	2,629,000	5,095,000	1400	1760	1880	3640
S-3	5th and Mission	Garage	712,000	1,373,000	2,085,000	830	860	1650	2510
S-4	Jones-Golden Gate	Garage	465,000	910,000	1,375,000	570	820	1590	2410
S-5	Market to Mission	Garage	1,690,000	2,489,000	4,179,000	1270	1330	1960	3290
Sub-Totals		Garages	$7,083,000	$8,914,000	$15,997,000	4890	$1450	$1820	$3270
GRAND TOTALS		All	$8,743,000	$9,011,000	$17,754,000	5690	$1535	$1585	$3120

RECOMMENDED PARKING FEE SCHEDULES

Three separate parking fee schedules designated "A", "B", and "C", have been devised for application to the several lots and garages recommended.

They are intended to accomplish the following purposes:

SCHEDULE A: For use at proposed garages. Intended to take short-time parkers off the streets and preclude all-day parking.

SCHEDULE B: For initial use at proposed lots. Intended to draw patrons from 3rd, 4th, and 5th Street intersections of Market Street and preclude all-day parking. This schedule to apply until facilities closer to Market Street are built.

SCHEDULE C: For future use at proposed lots. Intended to draw all-day patrons from congested business district. Short-time parking would also be accommodated. This schedule would apply after other facilities closer to Market Street have been built.

The three proposed schedules are shown in Table 3.

TABLE 3

PROPOSED SCHEDULES OF PARKING FEES

PARKING TIME	A GARAGES Short-Time	B LOTS (Temp) Short-Time	C LOTS (Later) All-Day
½ Hour	$ .10	$ .10	$ .15
1 Hour	.20	.10	.15
2 Hours	.35	.15	.25
3 Hours	.50	.25	.35
4 Hours	.75	.50	.50
5 Hours	1.25	1.00	.65
Over 5 Hours	2.00	2.00	.75
Evening Only	.35	.35	-
All night	1.00	-	-

For the purpose of making estimates of revenue, probable parking durations have been estimated from available studies of parking facilities where low rates are offered. By combining the parking duration estimates with the fees in the three proposed schedules, it is found that average parking fees collected would be as follows:

Schedule A	Short-time garages	41¢
Schedule B	Short-time lots	30¢
Schedule C	All-day lots	52¢

ESTIMATED GROSS INCOME

On the basis recommended herein, all of the proposed new parking facilities will be operated on a self-parking basis. This is practically mandatory in view of the proposed low rates for parking and the anticipated large volume of short-time business. The

project could not afford to hire a sufficient number of attendants to give the rapid service which would be necessary. This will preclude any car servicing during the day. Consequently income will depend solely on parking fee collections except for the limited amount of store rentals at the Ellis-O'Farrell and Sutter-Stockton garages.

HOURS OF OPERATION

It is proposed that the garages south of Market Street be open for business only from 9 a.m. to 7 p.m. on Tuesdays through Saturdays and from 9 a.m. to 11 p.m. on Mondays, holidays excluded. The south of Market lots, when operated for all-day parking should be open from 7 a.m. to 8 p.m. The three garages north of Market Street can probably do enough evening and all-night business to warrant 24-hour operation except on Sundays, when they would be closed.

PARKING LOT INCOME

During the period that the south of Market lots are operated for short-time parkers, the daily turnover should be 2.0. The annual income would be as follows:

A-1	5th and Howard	300 x 2.0 x .30 x 306	$55,100
A-2	Minna-Natoma	500 x 2.0 x .30 x 306	91,800

After the south of Market garages are built, the lots will serve principally all-day parkers and the turnover should be about 1.5. The annual income would be as follows:

A-1	5th and Howard	300 x 1.5 x .52 x 306	$ 71,700
A-2	Minna-Natoma	500 x 1.5 x .52 x 306	119,300
		Total	$191,000

Nearly the same result is obtained by using the maximum 75¢ rate with a turnover of 1.0.

GROSS ANNUAL INCOME

The income estimates for the five garages are summarized in Table 4. A turnover of 2.5 is used for all daytime parking. All are assumed to be in operation 306 days per year.

TABLE 4

GROSS ANNUAL INCOME

Item	Project Number				
	S-1	S-2	S-3	S-4	S-5
Stalls provided	820	1,400	830	570	1,270
Daytime parkers	2,050	3,500	2,075	1,425	3,150
Evening parkers:					
Mondays 52 days	500	1,000	500	200	1,000
Other 254 days	200	500	-	100	-
All-night parkers	100	250	-	100	-
Store frontage, ft.	200	255	-	-	-
Parking fee income	$	$	$	$	$
Daytime at 41¢	257,000	439,000	260,000	179,000	395,000
Monday eve at 35¢	9,100	18,200	9,100	3,600	18,200
Other eves.at 35¢	17,800	44,500	-	8,900	-
All night at $1.00	30,600	76,500	-	30,600	-
Total parking fees	314,500	578,200	269,100	222,100	413,200
Store rental	36,000	45,900			
Total income	350,500	624,100	269,100	222,100	413,200
Income per stall	427	445	324	389	325

Total 5 garages - $1,879,000 per year

Plus 2 Lots A-1 and A-2 191,000

GRAND TOTAL All facilities $2,070,000

AVERAGE INCOME: Garages $385 per stall

Lots $239 per stall

All facilities $364 per stall

OPERATION AND MAINTENANCE EXPENSE

The principal operating expense is the personnel cost. In preparing the estimate shown in Table 5, it has been assumed that each project would have a manager and a janitor, each working a 40-hour week, and that sufficient attendants would be provided to check motorists in, direct them to parking space and collect fees on departure. The parking lots will be open 13 hours per day for 6 days a week, making it necessary to employ 4 men on a 40-hour week basis to keep 2 men on duty at all times. The garages south of Market Street (S-3 and S-5) will be open 64 hours per week and those north of Market Street 144 hours per week. The number of men on duty at one time will vary in accordance with the volume of "in" and "out" movements.

In Table 5, the payroll item includes workmen's compensation insurance and Social Security taxes. The utilities are principally light, power, telephone, water and heat. Maintenance covers general repairs, regular overhaul of elevators and other mechanical equipment, and painting of structures, pavement markings, directional signs, etc. Supplies include parking tickets, janitorial materials and equipment, and supplies for office and wash-rooms. Insurance has been estimated to cover liability, property damage, fire, theft and minor repairs. To the sum of the above costs has been added an allowance of 15% to cover general administration, bookkeeping, legal expense and continingencies.

The total annual expense for the recommended program is shown to be $688,700 or an average $121 per stall. This is equal to 33% of the annual revenue as indicated in Table 4. It will be noted that the lots show the lowest operating expense and the north of Market Street garages the highest. The average cost per stall for all garages is 42% higher than the average for the two lots.

[illegible]

[illegible]

[illegible]

[illegible]

TABLE 5

ANNUAL OPERATION AND MAINTENANCE EXPENSE

	Project Number						
	A-1	A-2	S-1	S-2	S-3	S-4	S-5
Number of Stalls	300	500	820	1400	830	570	1270
Type of Facility	Lot	Lot	Garage	Garage	Garage	Garage	Garage
Employes Reqd.	5	5	14	24	10	10	19
Payroll and S.S. Taxes	$23,000	$23,000	$ 73,900	$125,500	$57,700	$57,700	$100,500
Utilities	1,000	1,500	5,200	8,000	3,500	3,700	5,300
Maintenance	1,600	3,000	6,000	9,000	6,000	4,300	8,000
Supplies	800	1,500	4,500	7,000	4,500	3,200	6,500
Insurance	2,600	4,000	6,500	10,000	6,500	4,700	9,000
Sub-Total	29,000	33,000	96,100	159,500	78,200	73,600	129,300
Administration and Contingencies 15%	4,400	5,100	14,400	24,000	11,700	11,000	19,400
Total	33,400	38,100	110,500	183,500	89,900	84,600	148,700
Expense per Stall	111	76	135	131	108	148	117

TOTAL - ALL PROJECTS $688,700

AVERAGE EXPENSE:

Garages	(S-1 to S-5)	$126 per stall
Lots	(A-1 and A-2)	$ 89 " "
All facilities		$121 " "

NET REVENUE AND RETURN ON INVESTMENT

The preceding estimates show that the program as a whole would produce a net revenue as follows:

Gross annual income	$2,070,000
Annual operation and maintenance expense	688,700
Net annual income	$1,381,300

This amount is 7.78% of the total investment of $17,754,000. It is available for property taxes, interest charges and amortization of the project cost. Property taxes on present assessed property values at current rates would be about $166,000 per year ($8,743,000 divided by 3.3 and multiplied by .0627).

With the information given, any number of possible financing methods can be devised for the program as a whole or for any individual project or combination of projects. Two possible methods of financing the whole project are given below as illustrations.

1. Land purchases financed by City with 2% general obligation bonds with no debt retirement. Improvements financed with private capital at 5½% to be paid off in 30 years.

Gross annual income		$2,070.000
Interest on City bonds $8,743,000 at 2%	$174,900	
Interest and amortization on loans $9,011,000 at 5½%, 30 years	620,000	
Operation and maintenance	688,700	
Property taxes	166,000	
Total annual costs		1,649,600
Net income available for income tax and profit		$420,400

2. Whole project financed by City with 2% general obligation bonds in amount of $17,754,000.

Gross annual income		$2,070,000
Operation and maintenance . .	$ 688,700	
Property taxes	166,000	
Annual expense		854,700
Net amount available for bond service		$1,215,300

This would pay off the bonds in about 17½ years.